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1995 Feature Article - Recent Trends in Labour Force Participation

Introduction

Australia's labour force participation rate is influenced both by the changing age structure of the population and the increasing trend towards part-time work. Also, while there has been an overall rise in the participation rate over recent decades, underlying this have been contrasting trends in the participation of males and females in the labour force.

The labour force participation rate for any group is calculated by dividing the total number of persons in the labour force (i.e. the employed plus the unemployed) within the group, by the total number of persons in the civilian population for the same group. The overall participation rate will reflect the distribution of the population across sub-groups as well as the participation rates within sub-groups.

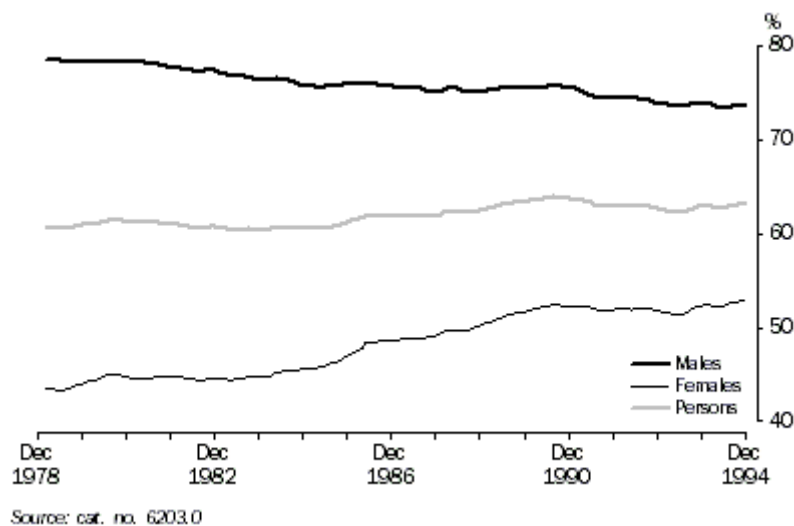
This article examines the influence of changes in the age structure of the population on the male and female participation rates. A decomposition technique is applied to separate changes in the overall participation rate into contributions from changes in the participation rates within various age groups and changes in the age structure of the population. Estimates of age-standardised participation rates, which eliminate the effect of changes in the age structure of the population, are also presented. These estimates can be used to isolate the influence of changes in the participation rates within various age groups.

Accompanying the overall rise in labour force participation has been an increasing trend towards part-time work. The article presents a supplementary measure of labour force participation which is adjusted for rises in part-time participation in the labour force.

Trends in labour force participation rates

The labour force participation rate rose from an average of 60.8 per cent in 1979 to an average of 63.0 per cent in 1994 (see graph 1). Over the same period, the male participation rate fell 4.8 percentage points, while the female participation rate rose 9.0 percentage points. Underlying these contrasting trends in male and female participation rates are varying movements in the age-specific participation rates.

GRAPH 1. LABOUR FORCE PARTICIPATION RATES, TREND



Between 1979 and 1994, male participation rates fell across all age groups, while female participation rates rose across all age groups, except for those aged 15 to 19 years. As shown in Table 1, the most significant changes in the age specific participation rates for males and females over this period were:

- a fall in male and female participation rates among those aged 15 to 19 years, reflecting an increase in the participation of teenagers in full-time education;
- a fall in male participation rates of approximately three percentage points for each age group between 20 and 54 years, but a much greater fall in the male participation rate among those aged 55 to 64 years, reflecting a trend towards early retirement; and
- a significant rise in female participation rates among those aged 25 to 54 years, primarily reflecting an increase in the number of married women returning to the workforce.

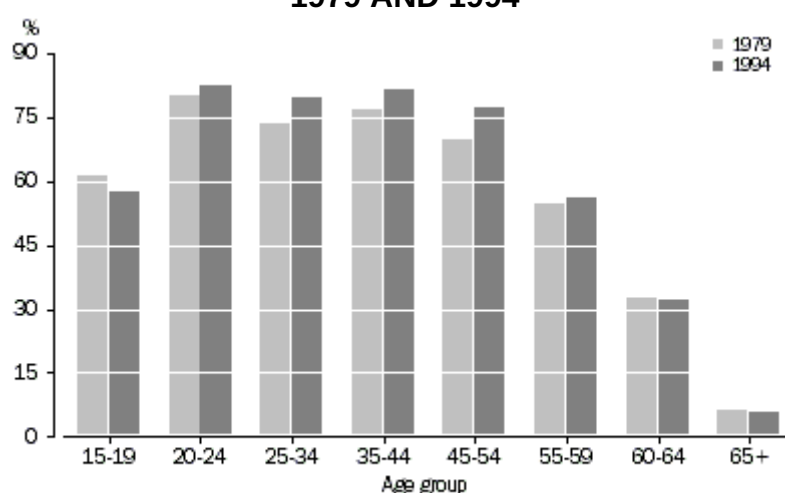
TABLE 1. LABOUR FORCE PARTICIPATION RATES: ANNUAL AVERAGES 1979 AND 1994

Age group	Males (%)			Females (%)		
	1979	1994	Change	1979	1994	Change
15-19	64.1	57.2	-6.9	58.6	57.8	-0.9
20-24	90.9	87.2	-3.7	69.3	77.5	8.2
25-34	96.2	93.0	-3.1	51.0	66.8	15.8
35-44	95.9	92.5	-3.4	57.1	70.3	13.2
45-54	91.6	88.6	-3.0	47.1	65.7	18.6
55-59	82.1	73.2	-8.9	27.8	38.6	10.8
60-64	54.4	48.7	-5.7	12.8	15.8	3.0
65+	11.6	9.3	-2.3	2.4	2.5	0.1
Total	78.4	73.6	-4.8	43.6	52.6	9.0

Source: Labour Force, Australia (cat. no. 6203.0)

The net effect of these offsetting movements in male and female participation rates has been a fall in the participation rate for persons aged 15 to 19 years, a rise in the participation rate for persons aged 20 to 59 years, and a fall in the participation rate for persons aged 60 years and over, as shown in Graph 2.

**GRAPH 2. LABOUR FORCE PARTICIPATION RATES: PERSONS, ANNUAL AVERAGES
1979 AND 1994**



Source: cat. no. 6203.0

Changes in age structure of the population

Apart from changes in the age-specific participation rates, the labour force participation rate will also be influenced by changes in the age structure of the population. Over the period 1979 to 1994, there have been marked changes in the age structure of the population (aged 15 years and over) for both males and females.

There has been a fall in the percentage of the population aged between 15 and 34 years, and a rise in the percentages of the population aged between 35 and 54 years and aged 65 years and over, as shown in Table 2. The shift in the percentage of the population in the age groups between 20 and 54 years was due to the aging of the "baby boomer" generation born in the late 1940s and throughout the 1950s.

**TABLE 2. CIVILIAN POPULATION AGED 15 YEARS AND OVER: AGE DISTRIBUTION
ANNUAL AVERAGES 1979 TO 1994**

Age group	Males (%)				Females (%)			
	1979	1984	1989	1994	1979	1984	1989	1994
15-19	12.5	11.2	11.1	9.5	11.8	10.5	10.4	8.8
20-24	11.6	11.5	10.3	10.5	11.2	11.1	9.9	10.0
25-34	21.9	21.6	21.4	20.3	21.2	21.1	20.9	19.9
35-44	16.3	18.4	19.6	19.5	15.3	17.3	18.8	19.1
45-54	14.7	13.5	13.8	15.9	13.7	12.5	12.8	14.9
55-59	6.8	6.6	5.8	5.8	6.7	6.3	5.5	5.5
60-64	5.3	5.8	5.7	5.1	5.6	6.0	5.6	5.0
65+	10.9	11.4	12.2	13.3	14.6	15.3	16.0	16.9
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Source: Labour Force, Australia (cat. no. 6203.0)

Using decomposition analysis, it is possible to separate changes in the overall participation rate into three distinct components:

- an age effect which measures the net contribution to changes in overall participation rate from changes in the age structure of the population;
- a rate effect which measures the net contribution to changes in overall participation rate from changes in age-specific participation rates; and
- an interaction effect which will generally be close to zero.

The major factor influencing changes in the overall participation rate has been changes in the participation rates within various age groups (the rate effect). However, during the mid to late 1980s, changes in the age structure of the population (the age effect) exerted some downward pressure on the overall participation rate, as shown in Table 3.

TABLE 3. CONTRIBUTION TO ANNUAL CHANGE IN PARTICIPATION RATE, ANNUAL AVERAGES 1979 TO 1994

		Contribution to annual change in participation rate (%)		
	Participation rate (%)	Age effect	Rate effect	Total change
1979	60.8	na	na	na
1980	61.3	-0.06	0.59	0.54
1981	61.1	-0.04	-0.12	-0.16
1982	60.8	-0.02	-0.33	-0.35
1983	60.4	-0.05	-0.29	-0.34
1984	60.6	-0.13	0.24	0.11
1985	60.8	-0.09	0.35	0.25
1986	61.9	-0.12	1.20	1.08
1987	62.0	-0.08	0.15	0.07
1988	62.4	-0.03	0.46	0.42
1989	63.2	0.02	0.75	0.78
1990	63.7	0.00	0.59	0.59
1991	63.2	-0.01	-0.54	-0.56
1992	62.9	-0.01	-0.26	-0.28
1993	62.6	-0.04	-0.27	-0.32
1994	63.0	-0.06	0.43	0.38

Source: Labour Force, Australia (cat. no. 6203.0)

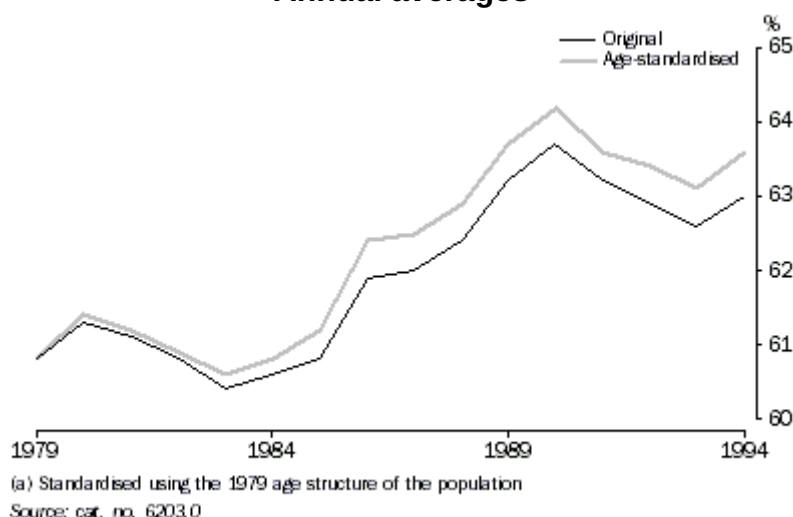
Age-standardised participation rates

The aging of the "baby-boomer" generation through the age groups between 20 and 54 years, who have relatively high participation rates, has exerted some upward pressure on the overall participation rate. However, this has been more than offset by the downward pressure exerted by the greater contribution of the population aged 65 years and over, who have relatively low participation rates.

One method of isolating the influence of changes in the participation rates of individual age groups is to calculate age-standardised participation rates. Age-standardised participation rates are derived by weighting the age-specific participation rates in each year according to the age structure of the population in a particular reference year. This standardisation technique will eliminate the effect of changes in the age structure of the population.

The effect of the age-standardisation, using the 1979 structure of the population as the reference population, was relatively small. However, the difference between the original participation rate and age-standardised participation rate has increased steadily between 1980 and 1994. As shown in Graph 3, by 1994, the age-standardised participation rate (63.6 per cent) was 0.6 percentage points higher than the original participation rate (63.0 per cent).

GRAPH 3. LABOUR FORCE PARTICIPATION RATES: PERSONS, ORIGINAL AND AGE-STANDARDISED (a)
Annual averages



The age-standardisation technique produced similar results for both males and females. By 1994, the age-standardised participation rate for males (74.3 per cent) was 0.7 percentage points higher than the original participation rate (73.6 per cent), and the age-standardised participation rate for females (53.2 per cent) was 0.6 percentage points higher than the original participation rate (52.6 per cent).

Trends in part-time labour force

In recent decades, the steady rise in the labour force participation rate has been accompanied by a significant increase in the proportion of both male and female labour forces which are part-time. The part-time labour force is defined as part-time employed plus people seeking part-time work, aged 15 and over. The contribution of the part-time labour force to the overall participation rate can be examined by separating the participation rate into full-time and part-time components, as shown in Table 4.

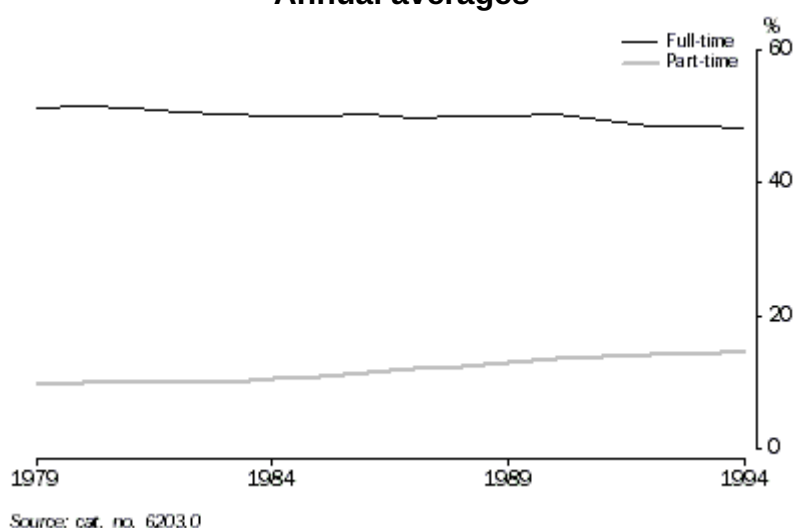
TABLE 4. LABOUR FORCE PARTICIPATION RATES: FULL-TIME AND PART-TIME COMPONENTS, ANNUAL AVERAGES 1979 AND 1994

	Males (%)			Females (%)		
	1979	1994	Change	1979	1994	Change
Full-time	74.3	65.8	-8.5	28.8	31.1	2.2
Part-time	4.1	7.8	3.7	14.7	21.6	6.8
Total	78.4	73.6	-4.8	43.6	52.6	9.0

These two components are calculated by dividing the total number of persons in the full-time labour force by the number of persons in the civilian population (the full-time participation rate) and by dividing the total number of persons in the part-time labour force by the number of persons in the civilian population (the part-time participation rate). The full-time and part-time participation rates add together to equal the overall participation rate.

Between 1979 and 1994, the part-time participation rate rose for both males and females, while the full-time participation rate rose for females, but fell significantly for males. The net effect of these movements has been a rise of 5.3 percentage points in the part-time participation rate and a fall of 3.1 percentage points in the full-time participation rate. The overall participation rate rose 2.2 percentage points over this period, as shown in Graph 4.

GRAPH 4. LABOUR FORCE PARTICIPATION RATES: PERSONS, FULL-TIME AND PART-TIME COMPONENTS
Annual averages



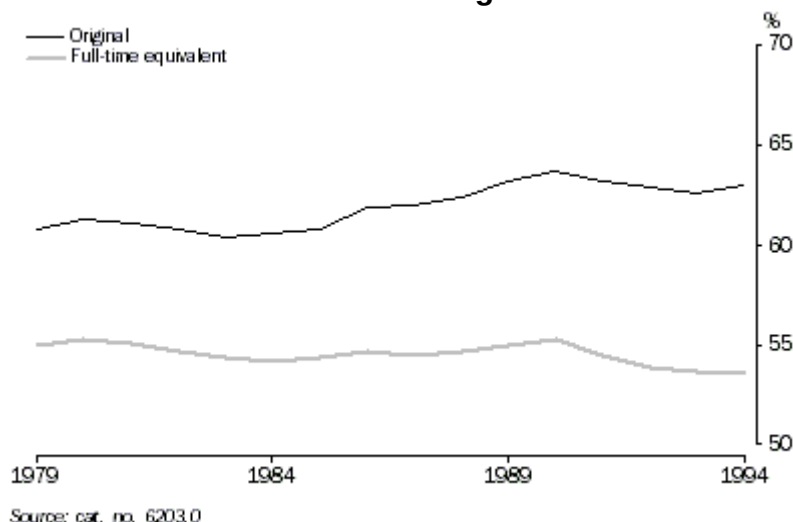
"Full-time equivalent" participation rate

In deriving the labour force participation rate, the contribution of a part-time participant is equivalent to a full-time participant, although their contribution to the labour force (in terms of hours worked or available to work) is considerably less. One method of adjusting for the increase in the part-time participation rate is to calculate "full-time equivalent" participation rates.

The full-time equivalent participation rate measures the number of full-time equivalent labour force participants as a proportion of the civilian population. It requires the conversion of part-time labour force participants into an equivalent number of full-time labour force participants. There are a number of possible methods for deriving estimates of full-time equivalents. In this case, the adjustment of part-time participants to full-time equivalent participants is based on the ratio of average hours worked of part-time workers to average hours worked of full-time workers for each year.

The full-time equivalent participation rate is significantly lower than the original participation rate, as shown in Graph 5. Between 1979 and 1994, the gap between the full-time equivalent participation rate and the original participation rate widened. In 1994, the full-time equivalent participation rate (53.6 per cent) was 9.4 percentage points lower than the original participation rate (63.0 per cent). While the original participation rate rose 2.2 percentage points from 1979 to 1994, the full-time equivalent participation rate fell 1.3 percentage points over this period.

GRAPH 5. LABOUR FORCE PARTICIPATION RATES: PERSONS, ORIGINAL AND "FULL-TIME EQUIVALENT"
Annual averages



Over the same period, the "full-time equivalent" participation rates for males and females have shown contrasting trends. The male "full-time equivalent" participation rate fell 7.4 percentage points, from 75.9 per cent to 68.5 per cent, while the female "full-time equivalent" participation rate rose 5.0 percentage points, from 34.8 per cent to 39.8 per cent.

Conclusion

The major factor influencing changes in the overall participation rate between 1979 and 1994, has been changes in the participation rates within the various age groups. Over this period, the changing age structure of the population has had very little impact on the male and female participation rates. In 1994, the age-standardised participation rates, which eliminate the effect of changes in the age structure of the population since 1979, were approximately 0.6 percentage points higher than the original participation rates.

Over this same period, there have been significant increases in part-time participation in the labour force. While this led to a 2.2 percentage point increase in the overall participation rate since 1979, when adjusted for hours worked, the "full-time equivalent" participation rate actually fell by 1.3 percentage points.

This feature article was contributed by John Preston and Karen Quine, Labour Statistics Analysis Unit, ABS.

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